IS 8919-2 (1978): Specification for Adjustable Adaptors for Tools with Self-Holding Taper Shanks, Part 2: Long Adaptors [PGD 32: Cutting tools]

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Indian Standard (Reaffirmed 2002)

SPECIFICATION FOR ADJUSTABLE ADAPTORS FOR TOOLS WITH SELF-HOLDING TAPER SHANKS

PART II LONG ADAPTORS

Small Tools Sectional Committee, EDC 45; Twist Drills, Reamers, Tapers, Sockets, Sleeves and Adaptors Subcommittee, EDC 45 : 1 [Ref : Doc : EDC 45 (2589)]

1. Scope — Covers the dimensions and requirements for adjustable adaptors, for tools with self-holding taper shank of long type, to be used with taper shank drills, reamers and spot facing cutters used in multi-spindle heads. Typical application is given in Appendix A.

2. Dimensions — Shall be as given in Table 1.

2.1 Limiting dimensions for ISO metric trapezoidal bolt thread shall be according to **2.1** of IS : 8919 (Part I)-1978 ' Specification for adjustable adaptors for tools with self-holding taper shanks: Part I Short adaptors '.

3. Material — Carbon steel of tensile strength not less than 600 MPa* in the core after case-hardening.

4. Hardness — Case hardened to 590 *HV* to 630 *HV*, except on threads, which may be left unhardened.

5. General Requirements

5.1 Dimensions of tapers according to IS : 1715-1973 ' Dimensions for self-holding tapers *(first revision)* '.

5.2 Woodruff key and keyslot according to IS : 2294-1963 ' Specification for woodruff keys and keyslots '.

5.3 Clamping nuts according to IS : 8919 (Part IV)-1978 ' Specification for adjustable adaptors for tools with self-holding taper shanks: Part IV Clamping nuts '.

5.4 The drift slot shall be provided 90° from the woodruff key and flat which are 180° apart.

5.5 Tolerance on dimensions without specified tolerances shall be of grade ' medium ' according to IS : 2102-1969 ' Allowable deviations for dimensions without specified tolerances (*first revision*) '.

6. Workmanship and Finish — The adaptors shall be manufactured in one piece and shall be free from cracks, burrs and other manufacturing defects.

7. Sampling — The sampling and criteria of acceptance according to IS : 7778-1975 ' Methods for sampling small tools '.

8. Designation — A long adjustable adaptor with shank diameter d = 25 mm, morse taper No. 1, length l = 120 mm, having woodruff key and conforming to this standard shall be designated as:

Adjustable Adaptor 25 × 1 × 120 IS : 8919 (Part II)

9. Marking

9.1 The adaptors shall be marked with the shank diameter d, morse taper number, length l and manufacturer's name or trade-mark.

9.2 *Certification Marking* — Details available with the Bureau of Indian Standards

10. Protective Coating and Packing

10.1 Each adaptor shall be covered with a suitable rust proofing material.

10.2 Each adaptor shall be wrapped in a non-absorbent paper protected by a cover bearing the size, morse taper number and manufacturer's name or trade-mark.

10.3 Adaptors of one size shall be packed in one carton.

*1MPa = 0·1 kgf/mm².

Adopted 26 October 1978 Gr 2

BUREAU OF INDIAN STANDARDS
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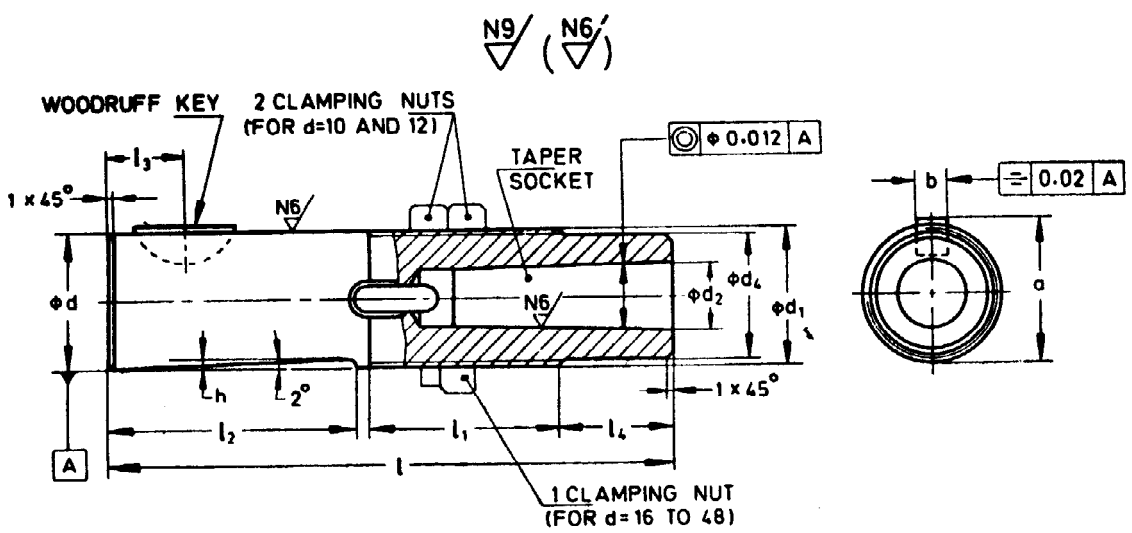
TABLE 1 DIMENSIONS FOR LONG ADJUSTABLE ADAPTORS

(*Clause* 2)

All dimensions in millimetres.



d^* h6	d_1	Taper	Basic Diameter d_2	a	Tol on a	b P9/ h9	h Max	l	l_1	l_2	l_3	l_4	d_4	Woodruff Key	Range of Adjust-ment
10	Tr10 × 1·5	Metric No. 6	6	10·9	0 −0·15	3	1	72 82 92	28	32	10	10 20 30	8	3 × 5	16
12	Tr12 × 1·5	Metric No. 6	6	12·9	0 −0·20	3	1	72 82 92 102	28	32	10	10 20 30 40	10	3 × 5	16
16	Tr16 × 1·5	Morse No. 0 or 1	9·045 or 12·065	17·1	0 −0·25	5	1·3	110 135 160 185	40	43	11	25 50 75 100	14	5 × 6·5	28
20	Tr20 × 2	Morse No. 1	12·065	21·1	0 −0·25	5	1·3	113 138 163 188	40	46	13	25 50 75 100	17	5×7·5	28
25	Tr25 × 2	Morse No. 1 or 2	12·065 or 17·780	26·5	0 −0·25	6	1·5	120 145 170 195	42	51	15	25 50 75 100	22	6 × 9	30
28	Tr28 × 2	Morse No. 1 or 2	12·065 or 17·780	29·5	0 −0·25	6	1·5	120 145 170 195	42	51	15	25 50 75 100	25	6 × 9	30
36	Tr36 × 2	Morse No. 2 or 3	17·780 or 23·825	37·5	0 −0·35	8	1·7	148 178 208 238	50	65	20	30 60 90 120	33	8 × 11	36
48	Tr48 × 2	Morse No. 3 or 4	23·825 or 31·267	49·9	0 −0·35	10	2·2	184 224 264 304	65	76	24	40 80 120 160	45	10 × 13	47

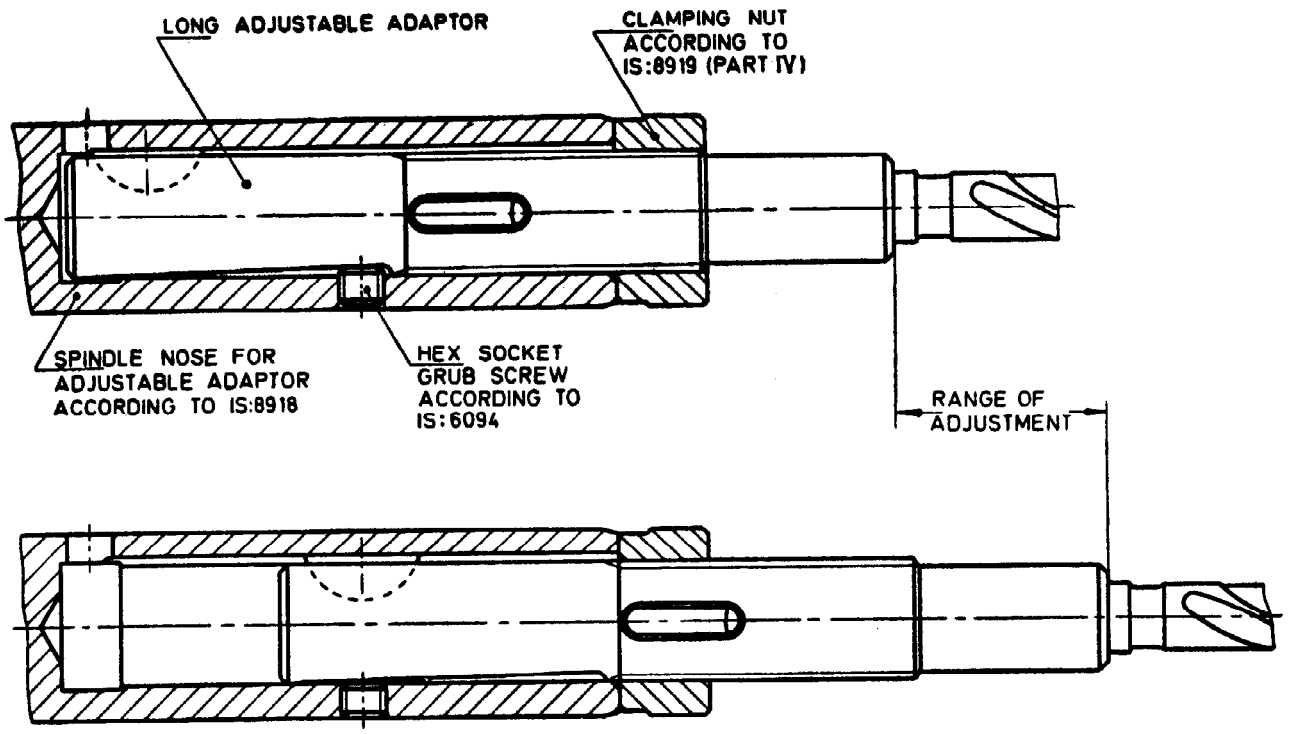
Note — In view of thin walls of sizes of 16 × 1·5 and 25 × 2 adaptor, care must be taken to ensure that this adjustable adaptor is not unduly stressed by the drill and shall be used when holes have to be drilled at very close pitch at the same station.

*Tolerance h6 is on the major diameter.

APPENDIX A

(*Clause* 1)

TYPICAL APPLICATIONS



EXPLANATORY NOTE

This standard on adjustable adaptors for tools with self-holding shanks is being issued in the following parts:

Part I Short adaptors
Part II Long adaptors
Part III Extra long adaptors
Part IV Clamping nuts for adaptors

In the preparation of this standard, considerable assistance has been derived from the following publications:

ISO 2905-1974 Modular units for machine tool construction — Spindle noses and adjustable adaptors for multi-spindle heads' issued by International Organization for Standardization.

DIN 6327 (Sheet 2)-1972 Stellhulsen mit werkzeugkegel; lange Bauart (Adjustable adapters for tools with morse taper shanks long types) issued by Deutsches Institut für Normung.